



PATENT

ATTORNEY DOCKET NO.: CBZ-1266

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application	)	Examiner S. MCDONALD
STEFAN BOEGL	)	
	)	Art Unit: 3617
Serial No.: 10/517,711	)	
	)	Confirmation No.: 4636
Filed: DECEMBER 10, 2004	)	
	)	Deposit Account: 04-1403
	)	
Title: METHOD AND DEVICE FOR THE	)	Customer No.: 22827
PRODUCTION OF A PRECISE CONCRETE	)	
PREFABRICATED PART	)	

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Denise R. Ginn

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Denise R. Ginn  
(Signature of person mailing paper or fee)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Re: Appeal to the Board of Patent Appeals and Interferences

In re Application ) Examiner S. MCDONALD  
STEFAN BOEGL )  
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Sir:

1. ☐ **NOTICE OF APPEAL:** Pursuant to 37 CFR 41.31, Applicant hereby appeals to the Board of Appeals from the decision dated \_\_\_\_ of the Examiner twice/finally rejecting claims \_\_\_\_.
2. ☒ **BRIEF** on appeal in this application pursuant to 37 CFR 41.37 is transmitted herewith (1 copy)
3. ☐ An **ORAL HEARING** is respectfully requested under 37 CFR 41.47 (due within two months after Examiner's Answer).
4. ☐ Reply Brief under 37 CFR 41.41(b) is transmitted herewith (1 copy).
5. ☐ "Small entity" verified statement filed: ☐ herewith ☐ previously.
6. **FEE CALCULATION:**

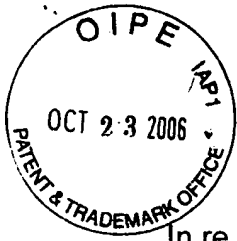
	Fees
If box 1 above is X'd enter \$500.00	\$ _____
If box 2 above is X'd enter \$500.00	\$ <u>500.00</u>
If box 3 above is X'd enter \$1,000.00	\$ _____
If box 4 above is X-d enter -0- (no fee)	\$ _____

Petition is hereby made to extend the original due date of \_\_\_\_\_ to  
cover the date of this paper and any enclosure for which the requisite fee is  
(1 month \$120); (2 months \$450); (3 months \$1,020); (4 months \$1,590),  
(5 months \$2,160) **Subtotal** \$ 500.00  
Less any previous extension fee paid since above  
original due date. **Subtotal** - \$ \_\_\_\_\_  
If "small entity" box 5 above is X'd, enter one-half  
(1/2 of subtotal and subtract) **TOTAL FEE** \$ 500.00

- ☐ Fee enclosed.  
☐ Charge fee to our Deposit Account/Order Nos. in the heading hereof (for which purpose one additional copy of this sheet is attached)  
☒ Charge to credit card (attach Credit Card Payment Form - PTO 2038)  
☐ Fee NOT required since paid in prior appeal in which the Board of Appeals did not render a decision on the merits.

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. show in the heading hereof for which purpose a duplicate copy of this sheet is attached. This statement does not authorize charge of the issue fee in this case.

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APPLICANT'S APPEAL BRIEF

Honorable Commissioner of  
Patents and Trademarks  
Washington, DC 20231

Sir:

Applicant hereby submits his original appeal brief to the Examiner's April 19,  
2006 Final Action in accordance with 37 CFR § 41.37 for the caption application.

1. REAL PARTY IN INTEREST:

The real party in interest is Max Bögl Bauunternehmung GmbH & Co. KG, the assignee (by assignment submitted for recordation but not yet recorded) of the Applicant's entire right title and interest.

2. RELATED APPEALS AND INTERFERENCES:

None.

3. STATUS OF CLAIMS:

Claims 22-24, 28, 35, 36, 38 and 39 are allowed.

Applicant appeals the rejection of all of the non-allowed pending claims 21, 25-27, 29-34, 37 and 40, which are under final rejection mailed on April 19, 2006.

4. STATUS OF AMENDMENTS:

No amendment has been made after the final rejections mailed on April 19, 2006.

5. SUMMARY OF CLAIMED SUBJECT MATTER:

The page and line number references are to the text of the substitute specification that was submitted with the Preliminary Amendment in September, 2005.

Independent claim 21: Using a grooved roller 21 to grind connection surfaces 3, 4 for add on elements 6, 10 of the fixed track 5 into the prefabricated concrete part 1 at relevant points 2 along the concrete part 1, is shown in Figs. 1 - 3 and described at page 11, line 1 through page 12, line 3; page 12, lines 9 – 17; and page 13, lines 5 –

14 of the subject application. The grooved roller 21 having a cross-sectional profile corresponding to the shape of the connection surfaces 3, 4 and defining the connection surfaces 3, 4 to desired predetermined dimensions is shown in Figs. 2 and 3 and described at page 10, lines 20 – 22; page 12, lines 3 – 17 and page 13, lines 5 – 14 of the subject application.

Independent claim 32: A device 15 for production of a precise prefabricated concrete part in the form of a plate 1 for a fixed track of a rail guided vehicle system, said device comprising a grinding machine 15 with a grooved roller 21 configured thereon to grind functionally relevant connection surfaces 3, 4 into the prefabricated concrete part 1 for connection of add on elements 6, 10 is shown in Figs. 1 - 3 and described at page 9, line 31 – page 10, line 8 of the subject application. The grooved roller 21 having a cross-sectional profile and dimensions corresponding to a profile and desired dimensions of the connection surfaces 3, 4 and being formed of a material that wears relative to the prefabricated concrete part 1 is shown in Fig. 3 and described at page 12, lines 3 – 17 and page 13, lines 5 – 18 of the subject application.

6. GROUND OF REJECTION TO BE REVIEWED ON APPEAL:

The final rejections of claims 21, 25-27, 29-32, and 40 as allegedly anticipated under 35 U.S.C. § 102(b) by DE 19753705 (hereafter DE '705).

The final rejections of claims 33, 34 and 37 under 35 U.S.C. § 103(a) as allegedly lacking nonobviousness over DE '705 in view of Feisel '020.

7. ARGUMENT:

Claims 21 and 32 are the only independent claims under final rejection, and the rejections of these independent claims are based on Section 102(b).

Independent claims 21 and 32 positively set forth the “grooved” nature of the roller used for defining the precise connection surfaces for the add-on elements in the prefabricated concrete part. For example, the method of independent claim 21 calls for “using a grooved roller to grind connection surfaces for add on elements of the fixed track into the prefabricated concrete part.” Thus, claim 21 further requires the grooved roller to have a cross-sectional profile that corresponds to the precise shape of the connection surfaces that are defined in the prefabricated concrete part with desired predetermined dimensions. Similarly, the production device of independent claim 32 calls for “a grinding machine with a grooved roller configured thereon to grind functionally relevant connection surfaces into the prefabricated concrete part for connection of add on elements.” Thus, claim 32 requires the grooved roller to have a cross-sectional profile and dimensions corresponding to the profile and desired dimensions of the connection surface that is defined in the prefabricated concrete part. Applicant respectfully submits that independent claims 21 and 32 patentably distinguish over DE '705.

As explained more fully below, all of the rejections in the Final Action suffer from a clearly erroneous and improper interpretation of “the add on elements of the fixed track” required in describing the roller in the appealed claims. When such limitation is properly interpreted, the roller described in DE '705 is inconsistent with the roller limitation present in claims 21 and 32. Accordingly, the rejections should be reversed.

In re Robertson, 49 USPQ 2d 1949, 1950 (Fed. Cir. 1999) (each element of the claim must be found in the single prior art reference).

The erroneous interpretation of DE '705 being relied upon in the rejections of claims 21 and 32 is stated as follows at page 3 of the Final Action (emphasis added):

Claim 21 claims that the grooved roller is used to grind connection surfaces for “add on elements” of the fixed track into prefabricated concrete. The Examiner interprets this to mean that the roller is used to grind a groove in the concrete and then the “add on elements” of the fixed track is placed in the groove. Therefore **anything inserted into the groove to support the rail of the track is considered an “add on element”**. Therefore **the elastically deformable profile element, along with the rail, of DE '705, is considered to be an “add on element”**.

As discussed in the Background section of the captioned application, the system and device according to DE '705 represents the state of the art wherein grooves are milled into concrete plates used to produce a fixed track. However, the grooves are not cut to the desired and necessary degree of tolerance and are thus not sufficient for add on elements such as track rails, which persons of ordinary skill recognize as requiring high-precision. According to DE '705, the grooves serve to receive elastically deformable profile elements, which in turn receive the rails. The elastically deformable profile elements of DE '705 merely attempt to compensate for the relatively imprecise production of the grooves that are defined in the concrete plate according to DE '705. Referring to the figures of DE '705, it is readily apparent that the roller 30 does not have a grooved cross-sectional profile that corresponds to the desired profile and exact tolerances of a connection surface on the concrete plate. At best, the roller has a profile corresponding to a groove having dimensions to receive an elastically deformable element, which is a profile element. Persons of ordinary skill recognize that the add on

elements cannot be connected directly to connection surfaces that are defined imprecisely in the concrete plate by the process of DE '705. Hence, the need for Applicant's invention.

Persons of ordinary skill recognize that "profile elements" are not "add on elements" or the equivalent thereof. If they were, then there would be no need for Applicant's invention. Applicant is aware of DE '705's elastically deformable profile elements, having distinguished DE '705 in the background of the captioned specification. And yet Applicant's specification does not identify any such elastically deformable profile elements as being add on elements. Any element that was deformable would defeat the purpose of the present invention's precise dimensioning of the connection surfaces; a precise dimensioning that DE '705 admittedly cannot achieve.

The interpretation of DE '705 being taken in the rejection is also contrary to the International Preliminary Examination Report on the corresponding PCT application, wherein the original PCT claims of similar scope were found to be novel and inventive in view of DE '705. Unlike the International Preliminary Examination Report, the present rejections fail to recognize the difference between add on elements and profile elements. Accordingly, the interpretation of DE '705 being taken in the final rejection is unreasonable, while Applicant's position is consistent with the conclusion set forth in the International Preliminary Examination Report that has been previously supplied to the Examiner.

According to DE '705, the "grooves" defined in the concrete structure serve to receive elastically deformable profile elements, which in turn receive the rails. The



elastically deformable elements compensate for relatively imprecise production of the grooves that are defined in the concrete plate. Because of the elastically deformable nature of these profile elements, the grooves according to DE '705 reference have a particular configuration that includes “undercut” portions. For example, referring to Figs. 1 through 4, the undercut portions of the groove are designated by reference numeral 3.

Referring to pages 12 and 13 of the translation of DE '705, the following is stated (emphasis added):

In the groove 1, an elastically deformable **profile element 5** is used that has a rail groove 6 running in longitudinal direction, into which a track rail 7 is inserted for forming a ballastless superstructure 8. The track rail 7 has a rail foot 9 designed as a push-in foot that is connected with a rail head 11 by way of a rail rib 10 that has a reduced cross section. With track rail 7 inserted, *the push-in foot 9 is located essentially in the area of undercut sections 3 arranged in the closed end of groove 1, so that the **profile element 5** is tensioned by the push-in foot 9 in the area of the undercut sections 3 of the groove 1, whereby both the track rail 7, as well as the **profile element 5**, is held in the groove 1.*

Thus, the undercut sections 3 are important to the groove structure in that they allow for elastic deformation of the profile element 5 into the undercut sections, which serves to secure the element 5 and track rail 7 relative to the groove 1. However, because the sections 3 are “undercut” relative to the profile of the groove, they must be defined in a subsequent cutting or grinding operation, as specifically illustrated in Figs. 2 through 5 of DE '705. For example, referring to Fig. 2 of DE '705, the sections 2 of the groove 1 are first formed in the concrete slab 4. Then, the undercut sections 3 are formed by means of a slanted milling or cutting disk 12. In the embodiment of Fig. 4 of DE '705, after formation of the non-undercut sections 2, the undercut sections 3 are milled out by a separate device 20 that has a finger-like milling tool 21 that rotates about

an axis to define the circular undercut section 3. Figs. 5 and 6 of DE '705 are schematic illustrations depicting the use of a first device to define the non-undercut sections of the groove, and a second device to define the undercut sections. In all of the disclosed embodiments of DE '705, the cross-sectional profile of the groove includes undercut sections 3, which serve to secure the deformable elastic profile element within the groove.

Thus, even if the profile elements 5 of DE '705 are considered as “add on elements that are placed into the grooves,” then the final rejection still must concede that the connection surfaces within the groove for such elements are not formed by a grooved roller having a cross-sectional profile that matches the overall cross-sectional profile of the connection surfaces. With the groove profiles according to DE '705, the undercut sections must be formed in a separate cutting or milling operation by a separate cutting or milling tool. A grooved roller may arguably be used to define the non-undercut sections 2 of the groove. However, these sections do not correspond to the overall complete connection surfaces for the profile element 5. The remaining connection surfaces for the profile element 5 are defined by the undercut sections 3 that must be subsequently defined in the groove. The complete overall profile of the groove is not defined by a grooved roller having a cross-sectional profile that corresponds to the shape of the connection surfaces, as called for in claims 21 and 32 of the present application.

Accordingly, applicant respectfully submits that independent claims 21 and 32 patentably distinguish over DE '705 and are allowable. Reconsideration of the final

rejection is respectfully requested. The remaining claims are allowable for at least the reasons their respective independent claims are allowable.

Applicant therefore respectfully submits that the absence of the noted limitations in DE '705 warrants the reversal of the rejection of claims 21, 25-27, 29-32, and 40 under 35 U.S.C. 102(b) over DE '705.

Since Feisel '020 fails to supply the deficiencies noted above in DE '705, claims 33, 34, and 37 are patentable under § 103(a) over DE '705 in view of Feisel '020.

#### B. Conclusion

As explained more fully above, the rejections are deficient in their reliance upon inaccurate interpretations of what is fairly disclosed in DE '705. Additionally, these interpretations ignore contradictory teachings in the drawings of DE '705. Applicant therefore respectfully submits that the final rejections of claims 21, 25-27, 29-34, 37 and 40 should be reversed, and that these claims should be allowed and passed to issue.

#### 8. CLAIMS APPENDIX:

Claims 1-20: (Cancelled)

21. (Previously Presented) A method for producing a precise prefabricated concrete part in the form of a plate for a fixed track for rail guided vehicles, comprising using a grooved roller to grind connection surfaces for add on elements of the fixed track into the prefabricated concrete part at relevant points along the concrete part, the grooved roller having a cross-sectional profile corresponding to the shape of the connection surfaces and defining the connection surfaces to desired predetermined dimensions.

22. (Previously Presented) A method for producing a precise prefabricated concrete part in the form of a plate for a fixed track for rail guided vehicles, comprising using a grooved roller to grind connection surfaces for add on elements of the fixed track into the prefabricated concrete part at relevant points along the concrete part, the grooved roller defining the connection surfaces to desired predetermined dimensions, and further comprising grinding the connection surface with the grooved roller in a first roughing process, and in a subsequent planning process to achieve final precise dimensions of the connection surface.

23. (Previously Presented) The method as in claim 22, further comprising adjusting the dimensions of the grooved roller between said roughing and planning processes.

24. (Previously Presented) A method for producing a precise prefabricated concrete part in the form of a plate for a fixed track for rail guided vehicles, comprising using a grooved roller to grind connection surfaces for add on elements of the fixed track into the prefabricated concrete part at relevant points along the concrete part, the grooved roller defining the connection surfaces to desired predetermined dimensions, and further comprising hardening the prefabricated concrete part after pouring and prior to said grinding process.

25. (Previously Presented) The method as in claim 21, wherein the connection surfaces are supporting points for installation of a rail of the fixed track for the rail guided vehicle.

26. (Previously Presented) The method as in claim 21, further comprising positioning the prefabricated concrete part in a defined position corresponding to its subsequent installed position for the grinding process.

27. (Previously Presented) The method as in claim 26, wherein the prefabricated concrete part is held in the defined position free of tension.

28. (Previously Presented) A method for producing a precise prefabricated concrete part in the form of a plate for a fixed track for rail guided vehicles, comprising using a grooved roller to grind connection surfaces for add on elements of the fixed track into the prefabricated concrete part at relevant points along the concrete part, the grooved roller defining the connection surfaces to desired predetermined dimensions, and further comprising determining relative wear of the grooved roller during the grinding process and presenting the grooved roller to the prefabricated concrete part as a function of the determined wear.

29. (Previously Presented) The method as in claim 21, further comprising determining target dimensions of the connection surfaces and controlling the grinding process as a function of determined actual dimensions of the connection surface during the grinding process.

30. (Previously Presented) The method as in claim 21, further comprising using the lowest connection surface in the prefabricated concrete part as a basis point of reference for grinding of other connection surfaces in the same prefabricated concrete part.

31. (Previously Presented) The method as in claim 21, wherein the prefabricated concrete part is formed at least in part of fiber concrete.

32. (Previously Presented) A device for production of a precise prefabricated concrete part in the form of a plate for a fixed track of a rail guided vehicle system, said device comprising a grinding machine with a grooved roller configured thereon to grind functionally relevant connection surfaces into the prefabricated concrete part for connection of add on elements, said grooved roller having a cross-sectional profile and dimensions corresponding to a profile and desired dimensions of the connection surfaces and being formed of a material that wears relative to the prefabricated concrete part.

33. (Previously Presented) The device as in claim 32, wherein said grooved roller is formed at least in part of silicon carbide.

34. (Previously Presented) The device as in claim 32, wherein said wear material is disposed on a steel shaft.

35. (Previously Presented) A device for production of a precise prefabricated concrete part in the form of a plate for a fixed track of a rail guided vehicle system, said device comprising a grinding machine with a grooved roller configured thereon to grind functionally relevant connection surfaces into the prefabricated concrete part for connection of add on elements, said grooved roller having dimensions corresponding to desired dimensions of the connection surfaces and being formed of a material that wears relative to the prefabricated concrete part, and further comprising an adjusting device having a material selected to grind down said wear material of said grooved roller upon presentation of said grooved roller against said adjusting device to precisely define the dimensions of said grooved roller.

36. (Previously Presented) The device as in claim 35, wherein said adjusting device material comprises a diamond coating.

37. (Previously Presented) The device as in claim 32, wherein said grooved roller has a diameter between about 700 mm and about 400 mm.

38. (Previously Presented) A device for production of a precise prefabricated concrete part in the form of a plate for a fixed track of a rail guided vehicle system, said device comprising a grinding machine with a grooved roller configured thereon to grind functionally relevant connection surfaces into the prefabricated concrete part for connection of add on elements, said grooved roller having dimensions corresponding to desired dimensions of the connection surfaces and being formed of a material that wears relative to the prefabricated concrete part, and further comprising a measuring system disposed to measure dimensions of the connection surfaces being ground into the prefabricated concrete part by said grooved roller.

39. (Previously Presented) The device as in claim 38, wherein said measuring system also measures the dimensions of said grooved roller during the grinding process.

40. (Previously Presented) The device as in claim 32, comprising a plurality of said grooved rollers such that a plurality of the connection surfaces can be ground into the prefabricated concrete part at the same time.

9. Evidence Appendix:

The International Preliminary Examination Report on the corresponding PCT application, wherein the original PCT claims of similar scope were found to be novel and

inventive in view of DE '705. The International Preliminary Examination Report has been previously supplied to the Examiner with the Information Disclosure Statement submitted in September, 2005.

10. Related Proceedings Appendix:

N/A

Respectfully submitted,

DORITY & MANNING, P.A.

DATED: \_\_\_\_\_

10/23/06

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